



# TECHNICAL MANUAL

Hand-operated hydraulic  
crimping tool

**PGR-70**

**PGRs-70**

Caution: Please read this manual  
carefully before performing  
operation.  
Please keep this manual properly  
for future reference.

The tool you received may differ  
from information in the manual  
due to product improvement.

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## DESCRIPTION

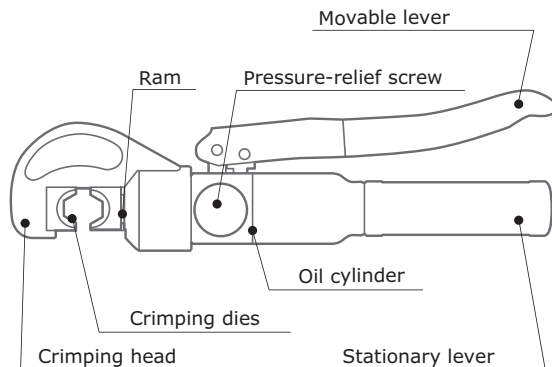
Hand-operated hydraulic crimping tools PGR-70 and PGRs-70 with internal pump are designed to crimp and splice aluminum and copper strands of insulated 4-70 mm<sup>2</sup> cables with DIN cord end terminals, lugs and sleeves by hexagonal dies.

PGRs version is fitted with a pressure-limiting valve to prevent over-pressurization and further tool failure. When dies close and required crimping force is reached, the valve locks further fluid pumping into the system.

## TECHNICAL DATA

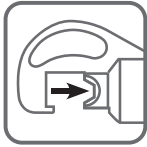
Characteristics		Value	
		PGR-70	PGRs-70
Crimping range	Copper lugs & end terminals, mm <sup>2</sup>	4-70	4-70
	Aluminum lugs & end terminals, mm <sup>2</sup>	10-70	10-70
Weight of tool / package, kg		1,7/2,7	1,8/2,8
Length, mm		295	315
Overall dimensions, mm		345 x 160 x 180	345 x 160 x 180
Max. pressing force, t		5	5
Crimping cross-section		Hex	Hex
Compliance with standards		DIN 48083	DIN 48083
Head 360° rotation		Available	Available

## DESIGN AND OPERATION

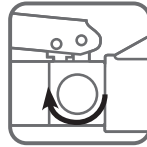


The hydraulic unit of the tool comprises a piston with a collar, and a spring to retract the piston on the one side, and a pressure cylinder and a plunger on the other side. When the movable lever is operated, the pump plunger reciprocates to create overpressure, pumping pressurized oil into the cylinder and moving the piston. The piston engages a moving die to crimp the wire. A stop valve connects a working cylinder chamber with an oil cylinder via oil channels. The return spring retracts the piston to its basic position, when the stop valve is opened.

## OPERATION PROCEDURE



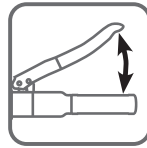
1. Select dies to match wire cross-sections.



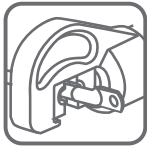
4. Tighten stop valve up to max.



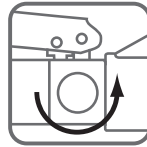
2. Insert dies into die holder.



5. Pump movable lever to crimp until dies close.



3. Put cable and connector between dies.



6. Loosen stop valve to retract piston to its basic position.

The crimping tool can be unlocked at any crimping step. To unlock the tool, loosen the stop valve half-turn.

**WARNING! DO NOT PUMP THE LEVER AFTER DIES HAVE CLOSED TO AVOID PGR-70 FAILURE.**

## CRIMPING PROCEDURE

Refer to crimping marks on connector end. Connector shall be crimped starting from the blade side, moving towards the end. Refer to the figure below for right direction. Cable sleeves shall be crimped starting from the center, moving towards the end. For recommended number of crimping operations with PGR-70 / PGRs-70, depending on wire flexibility, refer to the table below. If no crimping mark is stated on lugs or sleeves, crimp them so that space between crimping points approx. equals to crimping length; use the whole end length for crimping.



1 grade  
H07V-U, H05V-U  
cables



4 grade  
H05V-K cables



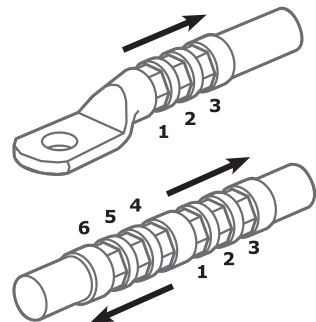
2 grade  
H07V-R cables



5 grade  
H05VV-F cables



3 grade  
H05V-R cables



## CRIMPING COMPATIBILITY

Size	Cross-section, mm <sup>2</sup> (wire type)	Dies	Number of crimpings	
			end terminals	sleeves
<b>Dies vs copper connectors compatibility (DIN 46267)</b>				
4 - (4, 5, 6) - 3	4 (5); 6 (1)	«4»	1	2
6 - (4, 5, 6) - 4	4 (6); 6 (2, 3, 4, 5)	«6»	1	2
10 - (5, 6, 8) - 5	10 (2, 3, 4); 16 (1)	«10»	1	2
16 - (6, 8) - 6	10 (5, 6); 16 (2, 3); 25 (1)	«16»	1	2
25 - (6, 8) - 7	16 (4, 5, 6); 25 (2); 35 (1)	«25»	1	2
25 - (6, 8, 10) - 8	25 (3, 4, 5, 6); 35 (2)	«25»	1	2
35 - (8, 10, 12) - 9	35 (3, 4); 50 (1)	«35»	1	2
35 - (8, 10, 12) - 10	35 (5, 6); 50 (2)	«35»	1	2
50 - (8, 10, 12) - 11	50 (3, 4); 70 (1, 2)	«50»	2	4
50 - (8, 10, 12) - 12	50 (5, 6)	«50»	2	4
70 - (10, 12) - 13	70 (3, 4, 6); 95 (1)	«70»	2	4
<b>Dies vs aluminum connectors compatibility (DIN 46267)</b>				
10 - 8 - 4,5	10 (1, 2)	«16»	1	2
16 - (6, 8) - 5,4	16 (1, 2)	«25»	2	4
25 - 8 - 7	16 (3); 25 (1, 2)	«35»	2	4
35 - 10 - 8	25 (3); 35 (1, 2)	«50»	2	4
50 - 10 - 9	35 (3); 50 (1)	«70»	2	4

## MAINTENANCE

After completing the work, wipe the tool with a clean cloth to remove any dirt, particularly from moving parts. After long use, oil degrades. Refill oil min. once in two years. If the tool is frequently used, refill oil min. once a year. The pressure-limiting valve is factory set and tested before sale. The tool shall be set and adjusted only by qualified personnel. The tool shall be serviced and repaired by qualified personnel. Only original spares shall be used. Use hydraulic oil of appropriate operating temperature.

## OIL REFILL



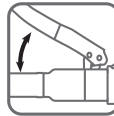
1. Turn the setscrew to the «Open» position.



4. Fill in new oil. Avoid air ingress.



2. Remove the stationary lever.



5. Close the cap. Tighten the lever and pump the tool.



3. Open the cap and pour out the oil.



6. If the tool is not pressurized, check oil level and add oil if required.

## SAFETY INSTRUCTIONS

Follow industry standards and safety regulations when operating the tool. Use the tool as intended.

Do not use the tool if you are tired, drunk, drugged, or medicated.

Do not wear loose clothing or long bulky jewelry. Loose hair prohibited. Jewelry, loose clothing or hair can be entangled. Always use personal protective equipment: gloves, mask, helmet, safety shoes. Keep the tool away from children. Take a stable position when operating the tool. Do not use unstable scaffolding, ladders or supports.

Inspect the tool before starting work. Do not use defective, damaged or blunted tools. A damaged or malfunctioning tool can cause injury to you or others.

Do not overload the tool. Make sure that all tool parts are clean and free of dirt, oil stains, particularly the handle and control area, to prevent tool slipping during operation.

Do not put your fingers or other body parts in the tool working area during operation.

Do not turn the working head if any pressure is applied to the tool. Do not operate the tool without dies installed.

Do not operate the tool at temperatures above or below the operating limits.

Do not touch the tool working area while the tool is in operation, otherwise it may cause injury.

Do not hit tool parts to prevent its malfunctioning.

The tool is portable, do not fix it. Do not stand in line with the belt being tensioned during operation.

The warnings and precautions described herein cannot comprise all warnings, since this manual cannot cover all possible cases that may occur. Caution and common sense are factors that cannot be integrated into a tool, but should be practiced by the user.

**WARNING! The tool is not insulated. Do not use the tool for live wire work. Disconnect power before work.**

## TRANSPORTATION, STORAGE AND OPERATION CONDITIONS

Store tools on racks, in a dry, clean place. Do not store tools in a place subject to corrosion. For long storage, lubricate exposed metal parts with a thin layer of grease using a piece of soft cloth. Store tools so that all tags and labels containing important information are retained. Remove accessories and consumables during storage and transportation.

Tools shall be transported in the original package. Operation temperature: -10...+40 °C. Transportation temperature: -25...+50 °C. Relative humidity: 20-90%, no condensing. If stored at -15°C, keep the tool for at least 3 hours in a room over +10°C before using the tool. Otherwise, oil may leak around gland seals during operation, which is not covered by the warranty.

## DISPOSAL

This tool has been made of materials safe for human health, however, not naturally disposed of by the environment. Some tool parts may require special disposal procedure. Please contact an authorized disposal company for advice.

## TROUBLESHOOTING

Malfunction	Possible cause	Solution
No pumping, or max. force not reached	No or little oil in the oil cylinder	<ol style="list-style-type: none"> <li>1. Remove stationary lever.</li> <li>2. Unscrew the cap of the oil cylinder.</li> <li>3. Refill the oil to max.</li> <li>4. Tighten the cap and the lever.</li> </ol> Use all-weather and industrial oils.
Oil leaking under the piston	Worn-out collar	<ol style="list-style-type: none"> <li>1. Turn the plug.</li> <li>2. Remove the plug and return spring.</li> <li>3. Tighten the stop valve and pump the lever, until the collar moves out.</li> <li>4. Replace the collar.</li> <li>5. Loosen the stop valve and force the piston to the bottom position.</li> <li>6. Insert the return spring and screw the plug.</li> </ol>

**DELIVERY SCOPE**

<b>Name</b>	<b>Meas.unit</b>	<b>Quantity</b>
Hand-operated hydraulic crimping tool PGR-70 / PGRs-70	pc.	1
Set of hexagonal dies: 4, 6, 10, 16, 25, 35, 50, 70 mm <sup>2</sup>	set	1
Repair kit	kit	1
Plastic case	pc.	1
Operation manual	pc.	1

**MANUFACTURER'S WARRANTY**

**Warranty period:** 3 years from the date of sale specified in the sales receipt.

**Shelf life:** 3 years from the date of manufacture specified on the product package or housing.

**Service life:** 5 years.

**Manufacturer:** for information, refer to the product package.

**Importer and EKF trademark service representative:** EKF ELECTRICAL SOLUTION – FZCO, Dubai Silicon Oasis, DDP, Building A2, Dubai, United Arab Emirates.

**Importer and EKF trademark service representative on the territory of the Russian Federation:** OOO «Electroresheniya», Otradnaya st., 2b bld. 9, 5th floor, 127273, Moscow, Russia. Tel.: +7 (495) 788-88-15.

**Importer and EKF trademark service representative on the territory of the Republic of Kazakhstan:** TOO «Energoresheniya Kazakhstan», Kazakhstan, Almaty, Bostandyk district, Turgut Ozal st., 247, apt 4.

## **CERTIFICATE OF ACCEPTANCE**

Hand-operated hydraulic crimping tool PGR-70/PGRs-70  
has been approved for operation.

Date of manufacture:  
for information, refer to the product package.

Quality control stamp



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**v2**